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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,240	02/04/2004	Isao Tomisawa	Q79725	8896
23373	7590	03/30/2007	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			NGUYEN, JENNIFER T	
			ART UNIT	PAPER NUMBER
			2629	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE		DELIVERY MODE	
3 MONTHS	03/30/2007		PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/771,240	TOMISAWA, ISAO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jennifer T. Nguyen	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 04 February 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/4/04;8/20/04</u> .  | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 12, and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suyama et al. (Patent No.: US 7,002,532) in view of Sullivan (Patent No.: US 6,377,229).

Regarding claims 1, 2, 20, and 21, Suyama teaches a display apparatus comprising: a plurality of display devices (2102 and 2103, fig. 34) disposed on a line of sight of an observer (2101) in front and rear relation to one another for superposing and displaying a plurality of images on an object to be displayed on said line of sight (col. 26, lines 4-43);

an intensity adjustment device (2104) for adjusting intensity of light emitted by at least one display device of said plurality of display devices so that the intensity difference between the light having maximum intensity in an observation position of said observer and the light having minimum intensity in said observation position of light respectively emitted by said plurality of devices may fall within a first predetermined range (col. 26, lines 44-62).

Suyama differs from claim 1 in that he does not specifically teach “a chromaticity adjustment device ... a second predetermined range”.

Sullivan teaches a chromaticity adjustment device (18, fig. 1) for adjusting chromaticity of light emitted by said one display device (i.e., 36) so that chromaticity coordinates in a observation position (12) of the light emitted by the respective arbitrarily selected two display

devices (i.e., 36 and 38) of said plurality of display devices (36-42) of the light respectively emitted by said plurality of display devices distribute within a second predetermined range (fig. 16, col. 17, lines 31-65 and col. 24, lines 31-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the chromaticity adjustment device as taught by Sullivan in the system of Suyama in order to generate transition between portions of the color image display.

Regarding claims 3 and 4, Suyama teaches said maximum intensity is C1 (the intensity of the object on 2102) and said minimum intensity is C2 (the intensity of the object on 2103) (col. 2, lines 54-61, col. 26, lines 4-56), although Suyama does not specifically teach said intensity difference is expressed by  $(C1-C2)/(C1+C2)$ , and said first predetermined range is equal to or less than 0.15 and less than 0.075. However, Suyama suggest the intensity level can be adjusted freely in different levels (col. 27, lines 24-33). Therefore, it would have been obvious to obtain the range is  $\leq 0.15$  or  $< 0.075$  in order to prevent a existence of the variation in intensity.

Regarding claims 5 and 6, the combination of Suyama and Sullivan teaches the chromaticity coordinates are chromaticity coordinates indicated by the XYZ color system, and said second predetermined range is a range in which the difference between x coordinates and the difference between y coordinates of said chromaticity coordinates (col. 24, lines 31-53 of Sullivan). Although Suyama does not specifically teach the range is equal to or less than 0.06 or 0.03 respectively. However, it would have been obvious to obtain this range in order to prevent an existence of the variation transition between portions of the color image display.

Regarding claims 7 and 9, the combination of Suyama and Sullivan teaches said plurality of display devices can perform display in R, G, and B colors, and at least one of said intensity

adjustment device and said chromaticity adjustment device performs adjustment on the light with respect to the R, G, and B colors (col. 18, line 58 to col. 19, line 5 of Sullivan).

Regarding claim 8, Suyama teaches said intensity adjustment device performs adjustment on white light emitted by said one display device (col. 11, lines 6-16).

Regarding claim 12, the combination of Suyama and Sullivan teaches gradients of intensity change within the respective screens of said plurality of display devices are equal to each other (col. 11, lines 5-50 of Suyama).

Regarding claim 15, Suyama teaches said intensity adjustment device performs adjustment by rewriting image information on at least one of intensity and chromaticity that said one display device has (col. 22, lines 1-35).

Regarding claim 16, the combination of Suyama and Sullivan teaches an input device (14) that can input an instruction for adjusting chromaticity of said light, wherein said chromaticity adjustment device performs adjustment according to said instruction (col. 5, lines 29-37, col. 18, line 58 to col. 19, line 5 of Sullivan).

Regarding claim 17, the combination of Suyama and Sullivan teaches at least display devices other than a display device disposed most rearward seen from said observer of said plurality of display devices are constituted by a translucent display device (col. 29, lines 22-27 of Sullivan).

Regarding claim 18, the combination of Suyama and Sullivan teaches said translucent display device is a liquid crystal display device (col. 6, lines 49-53 of Sullivan).

Regarding claim 19, the combination of Suyama and Sullivan teaches said plurality of display devices include a display device constituted by a half mirror (col. 50, lines 29-39 of

Suyama).

3. Claims 10, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suyama et al. (Patent No.: US 7,002,532) in view of Sullivan (Patent No.: US 6,377,229) and further in view of Okazaki et al. (Patent No.: US 6,411,047).

Regarding claim 10, the combination of Suyama and Sullivan differs from claim 10 in that it does not specifically teach said chromaticity adjustment device performs adjustment on the light emitted by respective screen piece units as units into which said one display device is divided within its screen.

Okazaki teaches a chromaticity adjustment device performs adjustment on the light emitted by respective screen piece units as units into which said one display device is divided within its screen (col. 4, line 7-16, col. 4, line 65 to col. 5, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the screen piece units as taught by Okazaki in the system of the combination of Suyama and Sullivan in order to drive the display images more efficiently.

Regarding claim 11, the combination of Suyama, Sullivan, and Okazaki teaches said screen piece unit is a group of a plurality of pixels in said one display device (col. 4, line 7-16, fig. 2).

Regarding claims 13 and 14, the combination of Suyama, Sullivan, and Okazaki teaches said chromaticity adjustment device adjusts the chromaticity of said light so that color irregularities of said one display device and color irregularities of another display device of said plurality of display devices may have the same tendency to each other (col. 7, lines 15-19 of Okazaki).

4. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure: Patent No.: US 5,745,197 and 6,906,762.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T. Nguyen whose telephone number is 571-272-7696. The examiner can normally be reached on Mon-Fri: 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Nguyen  
3/28/07



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